The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ERIK LUDDECKE, HELMUT AUWETER, and LONI SCHWEIKERT

Appeal No. 2003-1721
Application No. 09/226,143

ON BRIEF

Before SCHEINER, TIMM, and GREEN, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal involves claims 6-17 which are all the claims pending in the application. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 134.

INTRODUCTION

The claims are directed to compositions containing carotenoid aggregates. According to Appellants, carotenoids occur widely in nature and are conventionally used to color foods, cosmetics and nonfood articles (specification, p. 1, ll. 10-11). Their use, however, is greatly limited due to light and oxygen sensitivity (specification, p. 1, ll. 12-13). Appellants indicate that they have overcome the sensitivity problem by using carotenoids in their aggregated form (specification, p. 1, ll. 21-22). According to Appellants, it has now been found that, surprisingly, carotenoid aggregates exhibit significantly better stability to light than monomeric carotenoids (specification, p. 2, ll. 9-11). Claims 6, 9, and 13 are representative of the subject matter on appeal:

> 6. Drinks comprising carotenoid aggregates.
>
> 9. Cosmetic or pharmaceutical preparations comprising carotenoid aggregates.
>
> 13. A method of forming colored compositions of foods, cosmetics or pharmaceuticals comprising adding a carotenoid aggregate to said composition.

The Examiner rejects all the claims under 35 U.S.C. § 103(a). As evidence of obviousness, the Examiner relies upon the following:

Kitaoka et al. (Kitaoka)	5,591,343	Jan. 07, 1997
Takagaki[1] (Japanese Pub. Application)	63-145,367	Jun. 17, 1988

Statements in the specification at page 1, lines 25-36 (Statements in the Specification).

[1]We rely upon and cite to the English translation of record.

Claims 6-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kitaoka in view of the Statements in the Specification. Claims 9-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takagaki in view of the Statements in the Specification.

We reverse with respect to both rejections for the reasons that follow.

OPINION

The Examiner bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In meeting that burden, care must be taken to formulate a basis for the rejection which is consistent with the law and supported by the evidence relied upon. In the present case, there are errors both in the application of the law and in the interpretation of what the prior art references would have taught to one of ordinary skill in the art.

Kitaoka is directed to a process for extracting carotenoids from bacterial cells. Takagaki is directed to the stabilization of a carotenoid pigment composition with licorice organic solvent. The Examiner acknowledges that neither Kitaoka nor Takagaki disclose that the carotenoids they describe are in aggregated form. However, the Examiner concludes that, due to the similarities in production methods and ingredients between the processes of the references and the process described in the Statements in the Specification, "[i]t would have been obvious to one having

ordinary skill in the art at the time the invention was made to expect the formation of aggregates." (Answer, pp. 4 and 5).

The Examiner is impermissibly mixing the concepts of obviousness and inherency. A conclusion of obviousness must be based on knowledge within the art. Obviousness cannot be based on that which is unknown and, here, there is no evidence that those of ordinary skill in the art had any reason to expect the aggregate form would be beneficial or even equivalent for the uses described in primary references. The naked fact that it was known, according to the specification, that aggregates can occur under some circumstances does not provide a suggestion to formulate the compositions of the primary references in such a way that those compositions contain aggregates.

Inherency on the other hand, does not deal with expectations. Whether one knows that the carotenoids are aggregated or not, if they are actually aggregated when one follows the directions of the prior art, they are present. Patentability cannot rest on the lack of description of a property inherently present in a prior art composition or process. But, importantly, the initial burden is on the examiner to establish that there is a reason to believe aggregates are "necessarily present", not merely probably or possibly present in the prior art compositions. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977); s*ee also Trintec Industries Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002). The examiner

must provide enough evidence or scientific reasoning to establish that the belief that the property is inherent is a reasonable belief. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Int. 1990); *Ex parte Skinner*, 2 USPQ2d 1788, 1789 (Bd. Pat. App. & Int. 1986).

We cannot agree that the Examiner has provided the level of reasoning or evidence here necessary to establish that aggregates are necessarily present in either of the carotenoid compositions of the primary references.

First, both rejections rely upon the following Statements in the Specification:

> The aggregation of carotenoids is a well-known phenomenon which has been numerously described in the literature [listing of references omitted].
>
> Carotenoid aggregates can be produced, for example, by mixing a solution of a carotenoid in a water-miscible organic solvent such as, for example, isopropanol, ethanol, acetone or tetrahydrofuran with water.

(specification, p. 1, ll. 25-36). Appellants indicate that it is the *combination* of solvent and water that must be present to form aggregates (Brief, p. 5, ll. 15-16). Appellants also indicate that the order of mixing is important: The water must be added to the carotenoid-solvent solution in order to form aggregates (Supplemental Brief, p. 4, l. 18 to p. 5, l. 4).[2] That is a fair reading of

[2]Appellants rely upon arguments in both the Brief and Supplemental Brief to support their position (Supplemental Brief, p. 3), therefore, we consider the arguments in both documents.

the Statements in the Specification.[3] Moreover, the Examiner does not provide a convincing alternative interpretation.

The Examiner finds that Kitaoka extracts carotenoids from bacterial cells with supercritical fluid and, optionally, an entrainer (Answer, p. 4). While the list of entrainers preferably used by Kitaoka overlaps the list of solvents discussed as useful to form aggregates in the Statement in the Specification, there is no disclosure in Kitaoka, pointed to by the Examiner, that describes adding water to a solvent-carotenoid solution. Water and the other solvents are listed separately by Kitaoka and no combination of the two is mentioned. There is no reasonable basis presented by the Examiner indicating that aggregates necessarily form when one of ordinary skill in the art follows the teachings of the reference.

The rejection over Takagaki fails for similar a similar reason: The Examiner has failed to point to a portion of the Takagaki reference that discloses diluting a water miscible solvent-carotenoid solution with water. First, we note that, contrary to the finding of the Examiner (Answer, p. 5), Takagaki does not teach a carotenoid-acetone solution obtained by extraction with an aqueous medium. Takagaki only discusses the use of acetone solvent in the production of an organic licorice solvent extract. Carotenoid is added only after the solvent, is removed

[3]Appellants' position is further supported by the underlying documents referred to in the portion of the specification relied upon by the Examiner. All of these references describe diluting a solvent-carotenoid solution with water. *See especially* A. V. Ruban, P. Horton, A. J. Young, J. Photochem. Photobiol. B: Biol., 21 229-234 (1993) at p. 230, col. 1, last four lines and p. 231, col. 1, ll. 12-16; V.R. Salares, N. M. Young, P. R. Carey, H. J. Bernstein, Journal of Raman Spectroscopy, 6(6), 282-288 (1977) at p. 282, col. 2, "Preparation of solutions"; P. Song, T.A. Moore, Photochemistry and Photobiology, 19, 435-441 (1974) at p. 436, col. 2, "Results".

from the licorice extract by distillation (Takagaki, p. 4, ll. 3-5). Second, while Embodiments 2 and 3 (Takagaki, pp. 6-7) list water and ethanol solution, respectively, in the carotenoid pigment solutions, those embodiments do not discuss the order to mixing: There is no evidence that water is added to a carotenoid/water-miscible solvent solution.

We conclude that the Examiner has failed to establish a *prima facie* case of obviousness with respect to the subject matter of claims 6-17.

OTHER ISSUES

The application file contains an Information Disclosure Statement (IDS) submitted on January 25, 2002. The Examiner should note that the documents furnished in the IDS are the documents underlying the Statements in the Specification at page 1, lines 26-36 upon which the Examiner has relied upon to reject the claims. We note that the documents are prior art and have greater evidentiary value than a summary of their contents in the Applicants' own specification. Yet, it is unclear whether the Examiner considered these important documents as the PTO-1449 submitted with the IDS has not been initialed and signed by the Examiner nor are reasons given in the next Office Action for refusing consideration. Upon return of the Application to the jurisdiction of the Examiner, it is suggested that the Examiner follow the procedures outlined in MPEP § 609 with regard to the IDS.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 6-17 under 35 U.S.C. § 103(a) is reversed.

REVERSED

TONI R. SCHEINER Administrative Patent Judge	)
CATHERINE TIMM Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
LORA M. GREEN Administrative Patent Judge	)

CT/vsh

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